

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number
WO 2005/072710 A3

(51) International Patent Classification:

A61K 49/12 (2006.01) A61K 9/16 (2006.01)
A61K 48/00 (2006.01) A61K 9/50 (2006.01)
A61K 47/48 (2006.01) A61K 9/51 (2006.01)
A61K 9/00 (2006.01)

(21) International Application Number:

PCT/US2005/002556

(22) International Filing Date: 28 January 2005 (28.01.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/539,773 28 January 2004 (28.01.2004) US
60/579,533 14 June 2004 (14.06.2004) US

(71) Applicant (for all designated States except US): **JOHNS HOPKINS UNIVERSITY** [US/US]; Licensing & Technology Development, 100 N. Charles Street, 5th Floor, Baltimore, MD 21201 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HANES, Justin** [US/US]; 5416 Purlington Way, Baltimore, MD 21212 (US). **DAWSON, Michelle, Rose** [US/US]; 1 Capland Ct., Perry Hall, MD 21128 (US). **WIRTZ, Denis** [BE/US]; 3818 Garrison St. NW, Washington, DC 20016 (US). **FU, Jie** [CN/US]; 6817 Queens Ferry Rd., Baltimore, MD 21239 (US). **KRAULAND, Eric, Mark** [US/US]; 15 Lovell St., Apt. 2, Somerville, MA 02144 (US).

(74) Agents: **WU, Xuqiong** et al.; Ropes & Gray LLP, One International Place, Boston, MA 02110-2624 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

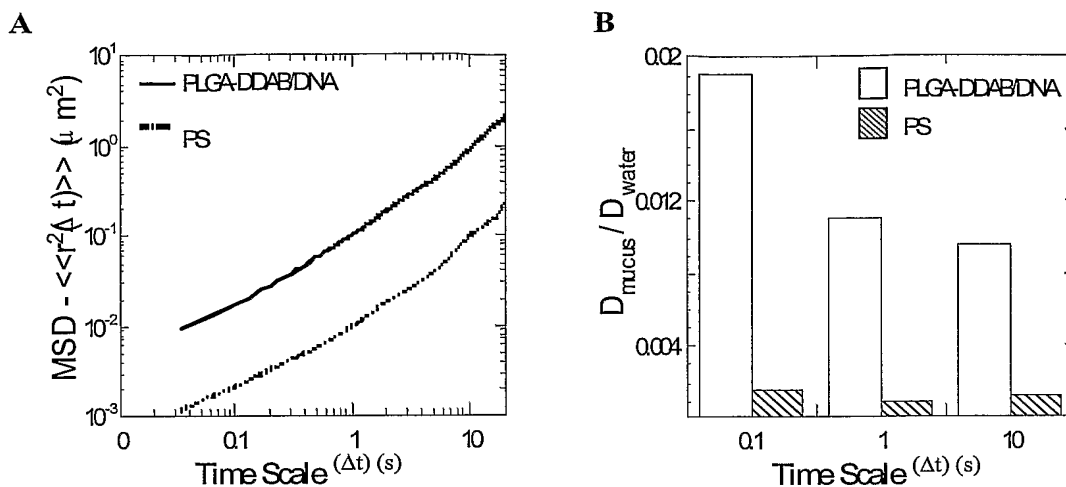
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

3 August 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DRUGS AND GENE CARRIER PARTICLES THAT RAPIDLY MOVE THROUGH MUCOUS BARRIERS



(57) Abstract: The invention generally relates to polymeric particles suitable for transporting bioactive agents across mucosal barriers. The invention also relates to methods of making and using those polymeric particles.